

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Adam William Saxler
Application Serial No.: To be assigned
Filed: Concurrently herewith
For: NITRIDE HETEROJUNCTION TRANSISTORS HAVING CHARGE-TRANSFER
INDUCED ENERGY BARRIERS AND METHODS OF FABRICATING THE SAME

Date: February 5, 2004

MAIL STOP PATENT APPLICATION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97(b)

Sir:

Attached is a list of documents on Form PTO-1449, together with a copy of any listed foreign patent document and/or non-patent literature. A copy of any listed U.S. patent and/or U.S. patent application publication is not provided herewith in accordance with the waiver by the U.S. Patent and Trademark Office of requirements under 37 C.F.R. § 1.98(a)(2)(i) for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC § 371 after June 30, 2003.

It is requested that these documents be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. § 1.56 and Section 609 of the MPEP. No fee is believed due; however, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

Respectfully submitted,



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CERTIFICATE OF MAILING UNDER 37 CFR § 1.10

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Traci A. Brown

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)				Attorney Docket Number: 5308-389		Serial No.: To be determined	
				Applicants: Adam William Saxler			
				Filing Date: Concurrently herewith		Group: Unknown	
U. S. PATENT DOCUMENTS							
Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	1	4,424,525	01/03/84	Mimura	357	23	
	2	4,471,366	09/11/84	Delagebeaudeuf et al.	357	16	
	3	4,727,403	02/23/88	Hilda et al.	357	22	
	4	4,946,547	08/07/90	Palmour et al.	156	643	
	5	5,192,987	03/09/93	Khan et al.	257	183.1	
	6	5,200,022	04/06/93	Kong et al.	156	612	
	7	5,210,051	05/11/93	Carter, Jr.	437	107	
	8	5,292,501	03/08/94	Degenhardt et al.	424	49	
	9	5,296,395	03/22/94	Khan et al.	437	40	
	10	5,393,993	02/28/95	Edmond et al.	257	77	
	11	5,523,589	06/04/96	Edmond et al.	257	77	
	12	5,701,019	12/23/97	Matsumoto et al.	257	192	
	13	5,705,827	01/06/98	Baba et al.	257	46	
	14	6,046,464	04/04/00	Schetzina	257	96	
	15	6,064,082	05/16/00	Kawai et al.	257	192	
	16	6,177,685 B1	01/23/01	Teraguchi et al.	257	20	
	17	6,218,680B1	04/17/01	Carter, Jr. et al.	257	77	
	18	6,316,793	11/13/01	Sheppard	257	103	
	19	6,429,467	08/06/02	Ando	257	194	
	20	6,515,316	02/4/03	Wojtowicz et al.	257	194	
	21	6,548,333	04/15/03	Smith	438	172	
	22	US2001/0015446A1	08/23/01	Inoue et al.	257	192	
	23	US2001/0020700A1	09/13/01	Inoue et al.	257	20	
	24	US2001/0023964A1	09/27/01	Wu et al.	257	368	
	25	US2002/0017696A1	02/14/02	Nakayama et al.	257	471	
	26	US2002/0167023A1	11/14/02	Chavarkar et al.	257	194	
	27	US2003/0102482A1	06/05/03	Saxler	257	85	
	28	Re. 34,861	02/14/95	Davis et al.	437	100	

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Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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				Applicants: Adam William Saxler			
				Filing Date: Concurrently herewith		Group: Unknown	
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
	30	WO 03/049193 A1	06/12/03	PCT			
	31	JP02002016087	01/18/02	Japan			
	32	JP02001230407A	08/24/01	Japan			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	33	Asbeck et al. "Piezoelectric charge densities in AlGaIn/GaN HFETs," <i>Electronics Letters</i> . Vol. 33, No. 14, pp. 1230-1231, 1997.					
	34	Eastman et al. "GaN materials for high power microwave amplifiers," <i>Mat. Res. Soc. Symp. Proc.</i> Vol. 512 (1998).					
	35	Eastman et al. "Undoped AlGaIn/GaN HEMTs for Microwave Power Amplification," <i>IEEE Transactions on Electron Devices</i> . Vol. 48, No. 3, March 2001, pp.479-85.					
	36	Gaska et al. "Electron Transport in AlGaIn-GaN Heterostructures Grown on 6H-SiC Substrates," <i>Appl.Phys.Lett.</i> , 72, 707 (1998)					
	37	Gaska et al. "High-Temperature Performance of AlGaIn/GaN HFET's on SiC Substrates," <i>IEEE Electron Device Letters</i> . Vol. 18; No. 1, p. 492, October 1997.					
	38	Gelmont et al. "Monte Carlo simulation of electron transport in gallium nitride," <i>J.Appl.Phys.</i> 74, 1818 (1993)					
	39	Heikman et al., Growth of Fe-Doped Semi-insulating GaN by Metalorganic Chemical Vapor Deposition, <i>Appl. Phys. Lett.</i> 81, pp. 439-441 (2002).					
	40	Ping et al. "DC and Microwave Performance of High-Current AlGaIn/GaN Heterostructure Field Effect Transistors Grown on P-Type SiC Substrates," <i>IEEE Electron Letters</i> . Vol. 19, No. 2, p. 54, February 1998.					
	41	Sheppard et al. "High Power Demonstration at 10 GHz with GaN/AlGaIn HEMT Hybrid Amplifiers." Presented at the 58 th DRC, Denver, CO, June 2000.					
	42	Sheppard et al. "Improved 10-GHz Operation of GaN/AlGaIn HEMTs on Silicon Carbide," <i>Materials Science Forum</i> . (2000) Vols. 338-342, pp. 1643-6.					
	43	Sheppard et al. U.S. Patent Application Serial No. 09/096,967 entitled, <i>Nitride Based Transistors On Semi-Insulating Silicon Carbide Substrates</i> , filed June 12, 1998.					
	44	Sullivan et al. "High-Power 10-GHz Operation of AlGaIn HFET's in Insulating SiC," <i>IEEE Electron Device Letters</i> . Vol. 19, No. 6, p. 198, June 1998.					
	45	Wu et al. "High Al-Content AlGaIn/GaN MODFET's for Ultrahigh Performance," <i>IEEE Electron Device Letters</i> . Volume 19, No. 2, p. 50, February 1998.					
	46	Yu et al. "Schottky barrier engineering in III-V nitrides via the piezoelectric effect," <i>Applied Physics Letters</i> . Vol. 73, No. 13, pp. 1880-1882, September 28, 1998.					
	47	International Search Report for PCT/US02/09398, August 26, 2002.					
	48	United States Patent Application entitled "Co-Doping for Fermi Level Control in Semi-Insulating Group III Nitrides", filed January 7, 2004 (Attorney Docket No. 5308-371).					

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